IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method ~~Method~~ of decoding coded information ~~by turbocoding of source~~ corresponding to turbo coded source of information, the coded information being represented by a set of initial weighted values, the method comprising:

a finite sequence of iterations;

each of the finite sequence of iterations ~~iteration~~ proceeding with an identical cycle of complete decoding of the coded information ~~coded~~ by ~~means of~~ a set of elementary decoding operations concatenated in parallel or in series separated by deinterleaving and/or interleaving steps;

each of the elementary decoding ~~operation~~ operations receiving ~~a first~~ an item of input information to be decoded ~~representing~~ represented by a set of ~~weighted~~ input weighted values and ~~at least one auxiliary item of information for increasing the reliability of the said first item of information, the said elementary decoding operation~~ generating an item of elementary decoded information represented by a set of output weighted values ~~and an item of auxiliary information for increasing the reliability of a second item of information to be decoded~~;

~~characterised in that~~ wherein at least ~~the~~ a last iteration of the ~~said~~ finite sequence of iterations is followed by at least one hard decision operation supplying ~~a first~~ an item of output information from the item of elementary decoded information from at least one of the elementary decoding ~~operation~~ operations of the ~~said~~ last iteration; and

~~and in that~~ the method further comprises at least one error detection operation for the ~~said first~~ item of output information and, in ~~the~~ event of error:

the ~~first~~ item of output information ~~or a second item of output information~~,

obtained by hard decision ~~from the elementary decoded information from at least one~~

~~elementary decoding operation of the said last iteration~~, is re-encoded and then converted into a set of weighted values;

the ~~said~~ weighted values are combined with the initial weighted values or with the input weighted values of an elementary decoding operation of the first iteration ~~in order~~ to supply modified initial weighted values or modified input weighted values; and

the finite sequence of iterations is repeated using the ~~said~~ modified values.

Claim 2 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 32 [[1]], ~~characterised in that~~ wherein

the first item of output information [[is]] comprises turbodecoded information obtained from at least one end elementary decoding operation of the ~~said~~ last iteration.

Claim 3 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 2, ~~characterised in that~~ wherein, in ~~the~~ an event of error on the turbodecoded information:

the first item of output information is turbocoded according to the ~~said~~ turbocoding and then converted into weighted values; and

the ~~said~~ weighted values are combined with the initial weighted values.

Claim 4 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 2, ~~characterised in that~~ wherein the second item of output information is obtained by a plurality of hard decision operations, each of the plurality of hard decision operations operating on the elementary decoded information from an elementary decoding operation of the ~~said~~ last iteration and supplying an item of output elementary information;

and, in ~~the~~ an event of error on the turbodecoded information:

each item of output elementary information is re-encoded and then converted into a set of weighted values;

the ~~said~~ weighted values are combined with the initial weighted values.

Claim 5 (Canceled).

Claim 6 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 32 [[1]], ~~characterised in that~~ wherein the first item of output information is obtained by a plurality of hard decision operations, each of the plurality of hard decision operations operating on the elementary decoded information from an elementary decoding operation of the last iteration and supplying an output elementary information item;

each output elementary information item is subjected to an error detection operation;

each erroneous output elementary information item is re-encoded and then converted into a set of weighted values;

the ~~said~~ weighted values are combined with the initial weighted values.

Claim 7 (Canceled).

Claim 8 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 4 ~~one of Claims 4 to 7~~, ~~characterised in that~~ wherein, the source information ~~having been~~ is coded by a turbocoding with parallel concatenation of elementary coding operations associated with interleaving steps,

each of the finite iterations ~~iteration~~ comprises a set of elementary decoding operations concatenated ~~in parallel~~ in series, each of the elementary decoding ~~operation~~ operations

corresponding to an elementary coding operation and being associated with an interleaving or deinterleaving step;

each of the elementary decoding ~~operation~~ operations of an iteration supplies a reliability auxiliary information item to at least one distinct elementary decoding operation of the following iteration.

Claim 9 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 8 ~~Claims 8 and 4 or 8 and 6~~, ~~characterised in that~~ wherein the re-encoding of the output information [[is]] comprises the ~~said~~ turbocoding.

Claims 10-13 (Canceled).

Claim 14 (Currently Amended): The decoding ~~Decoding~~ method according to one of Claims 8 to 9 [[13]], ~~characterised in that~~ wherein, the source information ~~having been~~ is coded by a turbocoding with parallel concatenation of elementary coding operations of ~~the~~ a recursive systematic type,

each of the elementary decoding ~~operation~~ operations of an iteration supplies an extrinsic information item as reliability auxiliary information, an increase in reliability brought by the ~~said~~ elementary operation to the estimation of the systematic information.

Claim 15 (Currently Amended): The decoding ~~Decoding~~ method according to ~~one of~~ Claim 4 ~~Claims 4 to 7~~, ~~characterised in that~~ wherein, the source information ~~having been~~ is coded by a turbocoding with serial concatenation of elementary coding operations separated by interleaving steps,

each of the finite iterations ~~iteration~~ comprises a set of elementary decoding operations concatenated in series, each of the elementary decoding ~~operation~~ operations corresponding to an elementary coding operation;

two elementary decoding operations with consecutive ranks in ~~the~~ a same iteration being separated by a deinterleaving step and two elementary decoding operations of consecutive ranks in two consecutive iterations being separated by an interleaving step;

each of the elementary decoding ~~operation~~ operations of an iteration supplies a reliability auxiliary information item to the decoding operation with ~~the~~ a preceding rank in ~~the~~ a following iteration.

Claims 16-17 (Canceled)

Claim 18 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 15 ~~one of Claims 15 to 17~~, ~~characterised in that~~ wherein the elementary coding operations are of ~~the~~ a recursive systematic type.

Claim 19 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 6, ~~characterised in that~~ wherein, the source information ~~having been~~ is coded by a turbocoding produced by a plurality of elementary block coding operations,

each of the finite iterations ~~iteration~~ comprises a set of elementary decoding operations concatenated in series, each of the elementary decoding ~~operation~~ operations of a dimension corresponding to an elementary decoding operation of ~~the~~ a same dimension;

each of the elementary decoding ~~operation~~ operations relating to [[a]] the dimension supplies a reliability auxiliary information item to the following decoding operation relating to another dimension.

Claim 20 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 19, ~~characterised in that~~ wherein the re-encoding of the output elementary information [[is]] comprises the ~~said~~ turbocoding.

Claim 21 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 19, ~~characterised in that~~ wherein the re-encoding of an output elementary information item is effected by an elementary coding operation corresponding to ~~the~~ an elementary decoding operation from which the ~~said~~ output elementary information item came.

Claim 22 (Currently Amended): The decoding ~~Decoding~~ method according to ~~one of Claims 19 to 21~~ Claim 19, ~~characterised in that~~ wherein the error detection is effected by a block code syndrome calculation.

Claim 23 (Currently Amended): The decoding ~~Decoding~~ method according to ~~one of Claims 1 to 21~~ Claim 1, ~~characterised in that~~ wherein the error detection is effected by ~~means of~~ a CRC code.

Claim 24 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 14, ~~characterised in that~~ wherein the error detection is effected using a statistical measurement of the extrinsic information from a plurality of elementary decoding operations.

Claim 25 (Currently Amended): The decoding ~~Decoding~~ method according to ~~one of Claims 1 to 9~~ Claim 1 ~~the preceding claims~~, ~~characterised in that~~ wherein the error detection is

effected by measuring the convergence of the ~~weighted~~ output weighted values from at least one elementary decoding operation for a plurality of successive iterations.

Claim 26 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 25 [[24]], ~~characterised in that~~ wherein the measurement of convergence is an entropic difference.

Claim 27 (Currently Amended): The decoding ~~Decoding~~ method according to ~~Claims 1 to 9~~ Claim 32 ~~one of the preceding claims~~, ~~characterised in that~~ wherein the weighted values are expressed as log likelihood values and ~~in that the~~ a combination operation ~~consists of~~ comprises subtracting a fraction of the weighted values obtained by converting the first or second output information item to the initial values or to the weighted input values.

Claim 28 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 27, ~~characterised in that~~ wherein the fraction of the weighted values is obtained by multiplying them with adaptive coefficients which are a function of ~~the~~ a type of turbocode and/or the signal to noise ratio and/or ~~the~~ a type of transmission channel.

Claim 29 (Currently Amended): The decoding ~~Decoding~~ method according to ~~Claims 4 to 9~~ Claim 4 ~~one of the preceding claims~~, ~~characterised in that~~ wherein each of the last iterations of the ~~said~~ finite sequence of iterations is followed by the ~~said~~ at least one hard decision operation or the ~~said~~ plurality of hard decision operations, the ~~said~~ at least one error detection operation ~~or the said plurality of error detection operations~~, and the operation of combination with the initial weighted values or with input weighted values before the ~~said~~ finite sequence of iterations is repeated.

Claim 30 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 29, ~~characterised in that~~ wherein the ~~said~~ finite sequence of iterations is repeated as long as an error is detected.

Claim 31 (Currently Amended): The decoding ~~Decoding~~ method according to Claim 29, ~~characterised in that~~ wherein the ~~said~~ finite sequence of iterations is repeated until a predetermined number of repetitions is reached.

Claim 32 (New): The decoding method according to Claim 1, wherein the item of input information includes a first item of input information and a second item of input information, the second item of input information serving as an auxiliary item of input information for increasing the reliability of the first item of input information, and

wherein the item of output information includes a first item of output information and a second item of output information, the second item of output information serving as an auxiliary item of output information for increasing the reliability of the first item of input information in the following decoding operation.

Claim 33 (New): The decoding method according to Claim 6, wherein, the source information is coded by a turbocoding with parallel concatenation of elementary coding operations associated with interleaving steps,

each of the finite iterations comprises a set of elementary decoding operations concatenated in series, each of the elementary decoding operations corresponding to an elementary coding operation and being associated with an interleaving or deinterleaving step;

each of the elementary decoding operations of an iteration supplies a reliability auxiliary information item to at least one distinct elementary decoding operation of the following iteration.

Claim 34 (New): The decoding method according to Claim 33, wherein the re-encoding of the output information comprises the turbocoding.